Affinity Water draft methodology response

Chapter 7

1 Key messages

PR24 is shaping up to be a challenging price control for the sector with increasing operational and macroeconomic uncertainty and risk. Substantial new capital investment is required to maintain asset resilience, enable service improvement, meet environmental challenges, and manage risks associated with climate change.

In this context, Ofwat's proposals for PR24 imply a disconnect between risk and return and – if adopted unchanged as part of the PR24 framework – risk undermining the financial resilience and the attractiveness of the sector as an investment proposition, with adverse consequences for customers.

We summarise below overarching concerns with Ofwat's approach (with detailed commentary included in our responses to individual questions):

- Ofwat notes that PR24 will expose companies to at least the same level of risk as PR19, which suggests that allowed equity returns should be no lower than those provided at PR19, prior to factoring in increased interest rates. This is not the case.
- A likely contributor to the imbalance between risk and return is Ofwat's proposed methodology for producing risk ranges which cannot provide a complete and accurate view of the risks facing the sector or be effective in assessing the symmetry of the risk-return balance in the proposed PR24 regulatory package.
- A disconnect between risk analysis and returns calibration is liable to result in a price control where risk and return are out of balance, leaving companies exposed to excessive downside risks. Such an outcome could undermine financial resilience of the sector
- *Cost of equity:* Ofwat is proposing to adopt selective estimation methodologies for each CAPM parameter which depart from the findings of CMA's PR19 re-determination and will result in downward-biased estimates. The proposed decrease in the cost of equity (CoE) is out of line with the upward trend in market interest rates and the resulting reduction in projected equity buffer is out of line with risk exposure at PR24 and Ofwat's concerns around financial resilience.
- *Cost of debt:* Ofwat's proposed approach implies some, but limited consistency with the principles and evidence from CMA21. We disagree with the departures from CMA21 on the treatment of swaps, the application of the outperformance wedge and the exclusion of junior debt from the calculation of the sector average.
- We are particularly concerned with the perverse incentives implied by the outperformance wedge i.e. to issue shorter term debt which will lead to greater refinancing and interest rate risk. These risks will ultimately be borne by the customer when the new, shorter, debt matures and needs to be refinanced during future price reviews.

- We also consider that (1) an allowance should be provided for basis risk mitigation given that this risk is arising due to factors outside companies' control that could not have been predicted when the current debt strategies were being implemented and (2) an uplift on the cost of new debt would be appropriate to reflect our size and infrequency of issuance.
- We note that important elements of the approach to calculate and cross-check the embedded debt allowance remain unclear and require further work to avoid uncertainty and risk of ex post discretion.
- *Notional gearing:* Ofwat's proposal to reduce notional gearing lacks support from market evidence, a holistic impact assessment and robust justification that the current gearing is sub-optimal and hence should be reduced. As a result, it creates a real risk of perverse incentives (e.g. to move to inefficient gearing levels) and adverse consequences (undermining investor confidence, over-reliance on a single source of financing, and equity issuance costs which ultimately need to be borne by customer).
- *Proportion of index-linked debt (ILD)*: An increase in ILD to match the sector average would exacerbate RPI-CPIH basis risk unless all ILD is assumed to be CPIH for the notional company and the costs of swapping RPI to CPIH are appropriately allowed. Notably, Ofwat's proposal appears to be inconsistent with the rationale for retaining the 33% ILD assumption at PR19 even though the rationale applies equally to PR24.

2 Q7.1 Do you have any comments on our approach to the overall balance of the PR24 incentive package, our proposed guidance on producing risk ranges, and our view of the balance of risk facing the notional company?

Ofwat's proposals for PR24 imply a disconnect between risk and return. The proposed material reduction in the cost of equity – in an increasing interest rate environment – is not accompanied by a commensurate reduction in risk.

Ofwat considers that at least the same level of return will be at risk at PR24 as at PR19, which suggests that allowed equity returns should be no lower than those provided at PR19, prior to factoring in increased interest rates. However, this is not the case and the increasing exposure at PR24, due to the interaction between growing inherent risk and tougher regulation, further exacerbates the misalignment between risk and return.

Ofwat's proposed methodology for producing risk ranges cannot provide a complete and accurate view of the risks facing the sector or be effective in assessing the symmetry of the risk-return balance in the proposed PR24 regulatory package. We are concerned that real-world risk evidence from companies will not be afforded due weight in the calibration of the price control.

Overall balance of the PR24 incentive package and Ofwat's view of the balance of risk facing the notional company

Ofwat's proposals imply a disconnect between risk and return in the context of increasing operational and macroeconomic uncertainty and risk and substantial new capital investment required to maintain asset resilience, enable service improvement, meet environmental challenges, and manage risks associated with climate change. As noted by Ofwat "*the sector will continue to face challenges such as the impacts of climate change, the transition to net zero, population growth, shifting customer expectations and pressure on customers' ability to pay*"[1].

There are several changes in the framework which imply some risk reduction relative to PR19 but these are offset by increased value at risk from other mechanisms such that the overall incentive package implies greater exposure for PR24. For example, Totex sharing rates are more temperate than at PR19, but the proposed incentive package exposes companies to greater risk on operational performance relative to PR19, via the removals of exclusions (e.g. for severe weather which is fully outside company control), reduced role for caps and collars, removal of deadbands and bespoke ODIs.

Ofwat notes that based on its current policy its *overall package at PR24 is likely to put at least as much return at risk as at PR19*[2]. There is a clear disconnect between (1) the likely revenue at risk from the price control and (2) the proposed methodology to set the allowed returns which, all else equal, implies significant reductions in the cost of equity, against a backdrop of increasing inherent operational and macroeconomic uncertainty and risk.

Ofwat's proposals to reduce notional gearing do not mitigate this disconnect between risk and reward and the resulting reduction in headroom available to manage risk. Lower gearing *per se* cannot provide a greater buffer against shocks as equity investment in the RCV is fully employed and is not available for management of risk. A different gearing assumption changes the implied mix of different forms of capital and reallocates risk between debt and equity providers but is not a substitute for pricing risk at the enterprise level.

Where financial headroom implied by a given level of returns is not sufficient to support financial resilience or management of risks, this cannot be addressed by changing gearing. The efficient market outcome would be a higher required return on capital to reflect business risks. By contrast, Ofwat's proposals for PR24 imply a reduction in the cost of equity in a rising interest rate environment due to methodological choices that depart from PR19 CMA outcomes.

Ofwat also acknowledges the desirability of a 'fair bet' for investors in the notional company[3] and notes that it has taken steps to mitigate the issue of perceived asymmetry at PR24. However, more systematic analysis is required of each regulatory mechanism and calibration to check whether investors on a mean expected basis would be able to achieve required returns.

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[1] Ofwat-Operational-resilience-discussion-paper-April-2022.pdf, page 7
[2] Draft methodology main doc, page 88
[3] Appendix-10-Aligning-risk-and-return.pdf (ofwat.gov.uk), page 3

Proposed guidance on producing risk ranges

Ofwat's proposed methodology for producing risk ranges is not likely to provide a complete and accurate view of the risks facing the sector and cannot be effective in diagnosing the miscalibration of the risk-return balance in the proposed PR24 regulatory package. This is due to:

- the focus on notional company risk ranges produced by Ofwat with no clear guidance on how the analysis developed by companies would inform price control calibration;
- the focus on backward-looking data which cannot capture the changes in risk exposure on a forward-looking basis;
- not accounting for inter- and intra-risk correlations which is liable to present a misleading view of aggregate risk exposure and undermine the robustness of the overall quantification of risk; and
- no link between risk analysis and the calibration of allowed returns

Ofwat appears to recognise the potential value of company experience in deriving notional risk ranges but considers that this will be best incorporated as feedback on their notional ranges rather than through an exercise to synthesise multiple company-generated notional ranges. We are concerned that this approach is unlikely to afford sufficient weight to company evidence based on business experience and performance data.

Ofwat proposes that company risk ranges will be considered as an input into its in-the-round assessment of notional risk ranges, which is likely to draw on a range of sources. However, there is insufficient clarity and guidance on how notional and company-specific actual risk analysis would interact with each other quantitatively to help inform the final RoRE risk ranges in Ofwat's PR24 determinations.

We consider that there is an increase in inherent risk exposure of the sector which is largely unmitigated by the regulatory framework which itself implies additional challenges for the sector as a result of putting more revenue at risk. The relative risk analysis undertaken by KPMG[4] indicates that – based on underlying dynamics of risk allocation implied by the regulatory framework – risk is at least as high as at PR19 and is likely to be *higher* at PR24. Step changes in investment to meet environmental obligations for example in relation to population growth, the transition to Net Zero (which all increase deliverability risks), increased competition (which increase the risk of asset stranding) and more stretching performance targets (which increase the risk of regulatory penalties suggest that risk exposure is increasing.

Forward-looking operational risks and evolving correlations between the drivers are difficult to capture using historical data as risks might not be 'mean-reverting'. We maintain that Ofwat's analysis should quantify and allow for step changes in risk. To facilitate this, detailed engagement with experts in each company are required to allow for a comprehensive assessment and detailed understanding of changes in risk drivers on a forward-looking basis.

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[4] KPMG (2022), Relative risk analysis and beta estimation for PR24 [available at: https://www.ofwat.gov.uk/wp-content/uploads/2022/08/NWG_Estimation_of_beta_and_treatment_de_and_relevering.pdf]

Ofwat has presented overall RoRE range as an additive sum of parts, acknowledging that this approach is liable to misrepresent (and potentially over-state) risk for the notional firm. Overall risk exposure is affected by both intra- (e.g. between different ODIs) and inter-risk (e.g. between costs and service levels) correlations and it is unclear how and to what extent Ofwat is planning to address these in its methodology.

- On intra-risk correlations: Ofwat is consulting on the approach to estimate ODI risk whereby its preferred option would "*take a proportionate approach to aggregating risk*"[5]. Given the lack of detail it is not possible to assess whether the proposed approach would be sufficiently reflective of the correlations between different ODIs. It is important that the analysis of correlation is carefully evidenced to ensure the validity of risk quantification as an input to price control setting and cross checking the overall balance and levels of risk and return.
- On inter-risk correlations: Ofwat does not propose a methodology to account for these, merely noting that Monte Carlo analysis might be overly complex. We recognise that stochastic modelling of risk can be complicated but it is critical to capture inter-dependencies across risks robustly, which could be supported and informed by analysis of specific scenarios and events.

Risk analysis represents an important real world, corporate finance cross check on allowed returns in line with financeability requirements, consistent with the CMA's methodology at PR19. Where the link between risk analysis and return calibration is broken this is liable to result in a price control where risk and return are out of balance, as is the case for PR24 based on the draft methodology. We comment on the role of risk analysis as a cross check in greater detail in the response to question Q7.4.

3 Q7.2 Do you agree with our proposals on the regulatory regime for managing companies' exposure to uncertainty over 2025-2030?

A best practice principle for risk management and pricing is that risks should be allocated to the party best placed to manage them. Incentivisation – which is one of the primary objectives of economic regulation – only works when it is achievable and well calibrated. Ofwat's views on risk allocation, set out at the beginning of section 7.2, appear to be consistent with these principles at the highest level, but do not explicitly address the requirement to ensure that the allowed return is consistent with the net (i.e. post the effective mitigations provided by mechanisms) exposure faced by the companies.

We note that companies will face an increasingly uncertain and challenging operational[6] and macroeconomic environment going into PR24. At the same time, the scope and scale of mechanisms used to manage risk and uncertainty and the allowed return are decreasing.

[5] Appendix-8-Outcome-delivery-incentives.pdf (ofwat.gov.uk) page 52

[6] See section 4 of KPMG (2022), Relative risk analysis and beta estimation for PR24 [available at: https://www.ofwat.gov.uk/wp-content/uploads/2022/08/NWG_Estimation_of_beta_and_treatment_de_and_relevering.pdf]

It is important to ensure that the suite of mechanisms proposed by Ofwat for PR24 appropriately captures and addresses the risks arising due to factors outside company control. For example, at PR19 Ofwat did not provide Retail Price Effects (RPEs) for energy costs, however, the latest data illustrates that energy costs are a material sensitivity which companies have relatively limited control over[7]. The exposure to energy costs could be addressed by either providing for costs of hedging required to mitigate the risk or providing RPEs or differentiated cost sharing rates on energy costs.

4 Q7.3 Is there value in introducing more prescriptive requirements and guidance for company-produced RoRE risk ranges? How might this be implemented for:

a. Interactions between performance on cost and service?

b. Interactions between performance on different ODIs?

The guidance for company-produced RoRE ranges should be primarily principles-based, with potentially more prescriptive requirements for parameters that are common across companies. This could allow for greater comparability on common parameters and flexibility to tailor the analysis for company-specific characteristics and circumstances; the latter being critical to obtain a complete and accurate picture of risks faced by the sector. Imposing prescriptive guidance across all elements of the risk analysis would likely result in artificial comparability and significantly undermine the value of company-produced analysis.

It will be key for analysis of risk to consider the evolution of inherent risks and the regulatory approach to come to a view regarding the net exposure faced by each company on a forward-looking basis. This will partially be informed by exposures that have crystallised during PR19 but will also need to take account of new and changing risk drivers.

Interactions between cost and service on the one hand and between different ODIs on the other are complex to quantify (especially ODIs) and are materially driven by the characteristics, circumstances, and history of each water company (e.g. regional differences, past investment programmes, customer priorities, condition of the network). Prescriptive requirements and guidance for these elements is unlikely to be value-adding given the inherent complexity in design and the high risk of distortions and omissions.

[7] CMA (2021), PR19 FD, para. 4.720

5 Q7.4 Do you agree with our proposed approach to setting the allowed return on equity?

We disagree with Ofwat's proposed methodology to estimate each parameter and set the overall cost of equity (CoE) allowance. This is primarily because Ofwat's proposals

- Rely on the selective choice of estimation methodologies for each CAPM parameter that will result in downward-biased estimates;
- Significantly depart from methodologies adopted by the CMA in its PR19 redetermination (CMA21) – where CoE was subject to extensive debate – and omits relevant evidence that the CMA relied upon. Ofwat attaches greater reliance on the RIIO2 CMA outcome on CoE notwithstanding different legal frameworks applicable to the energy and water sectors;
- Imply reductions in the CoE which are not supported by the available market evidence; instead they are driven by reliance on a downwards-skewed subset of possible approaches; and
- Imply reductions in projected cashflows and the projected equity buffer available to manage risk in an increasingly challenging operational, macroeconomic, and regulatory environment. There is a clear disconnect between Ofwat's proposals on CoE and its concerns and remedies for financial resilience

Risk free rate (RFR)

Ofwat is proposing to rely on index-linked Gilts (ILGs) as the primary source of evidence to set the RFR, dismissing the evidence from AAA-rated corporate bonds that the CMA relied upon during the PR19 re-determination and dismissing any potential adjustments to the ILG rate to account for the convenience yield.

We disagree with the proposed approach set out in the draft methodology based on the following key findings of the analysis undertaken by Oxera on the methodology to estimate the RFR for PR24[8]:

- Substantial evidence – qualitative and quantitative – from academic literature which supports the existence of the convenience yield and the use of an RFR that is higher than the yield on government bonds.
- The empirical finding that government and AAA bond returns have consistently exhibited negative or close-to-zero correlations with equity returns since 2010, which indicates that both instruments are equally valuable inputs for the estimation of a 'true' RFR (i.e. a zero-beta asset) for the CAPM.
- The precedent from the CAA which, in its latest proposals for the regulation of Heathrow Airport, derived the RFR by adjusting the ILG rate by a convenience premium that reflects the yield spreads of the AAA-rate bonds.

[8] Oxera (2022), RFR methodology for PR24 [available at: https://www.ofwat.gov.uk/wp-content/uploads/2022/08/NWG_Risk_Free_Rate_Oxera.pdf]

— The precedent from international regulation, namely, the German federal network agency, Bundesnetzagentur (BNetzA), who has implicitly allowed for an adjustment for convenience premium since 2005.

Consistent with CMA21, Oxera propose an RFR range informed by the yield on ILGs at the lower and AAA rated corporate bonds at the upper end. This pragmatic approach circumvents the requirement to quantify the convenience premium and the adjustments to AAA bond yields.

We also disagree with the proposed use of long-term SONIA swap rate as a cross-check to RFR. Reliance on this cross check introduces additional 'noise' into RFR estimates but does not improve their robustness. This noise arises due to market frictions, such as the convenience premium and excess demand, and its persistence over time is due to limits to arbitrage[9].

Total market return (TMR)

We welcome Ofwat's recognition that forward-looking techniques should not form the primary basis by which TMR is estimated given this evidence is widely acknowledged to be the least robust of possible estimation approaches.

Consistent with the approach adopted at CMA21, the reliance on forward-looking evidence should be even more limited than implied by Ofwat's statement in the draft methodology.[10] In particular, the CMA constructed the TMR range using historical ex post and ex ante approaches[11] and did not consider forward-looking evidence when selecting the point estimate (mid-point of the historical range).

We disagree with the proposal to disregard the RPI series for deflating historical TMR on the basis that both CPIH and RPI have relevant strengths and weaknesses which means that weight should be placed on both.

RPI actual values are available for a longer proportion of the historical window, but the formula is known to have varied over time and it is not the best measure of inflation going forward. CPIH is a more reliable measure of inflation, however, the quality of the CPIH back series published in May needs to be reviewed. We note that the modelled CPI series required revisions[12].

As a result, weight should be placed on both RPI and CPIH series; to do otherwise risks introducing a bias through omission of relevant data. This is consistent with the approach adopted by the CMA at CMA21.

On averaging, there is no rationale to diverge from the approach adopted by the CMA, which focused on arithmetic averages and considered overlapping and non-overlapping estimators of returns over 10- and 20-year holding periods. We note that the CMA carefully considered the arguments for and against the inclusion of the non-overlapping estimator and concluded that these should be included "*in the range of reasonable TMR estimates, rather than to exclude some of these estimates as to do so may risk 'cherry-picking' data*"[13].

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[9] Ibid.
[10] Draft methodology consultation, Appendix 11, page 11
[11] CMA (2021), PR19 FD, paras. 9.393 – 9. 395
[12] Consumer Prices Index including owner occupiers' housing costs (CPIH) historical series - Office for National Statistics
[13] CMA (2021), PR19 FD, para. 9.333

Ofwat also proposes to retain the use of a direct transformation of the whole-period geometric average return to its arithmetic equivalent as a cross-check. We note that CMA21 revealed challenges in estimating the appropriate uplift to the geometric mean[14], so this approach would need to be applied with caution and may be of limited usefulness.

Beta

As noted by Ofwat in the draft methodology consultation[15], CAPM estimates the required return on an equity investment over a single period or investment horizon. This standard version of CAPM is an *unconditional* CAPM which does not distinguish between different potential future states of the world and does not consider that beta will vary over time. For consistency with the unconditional CAPM which is the primary methodology for estimation of required returns, the calculation of allowed cost of equity requires an estimate of the unconditional beta.

As a result, the exam question when designing the approach to set the notional beta for PR24 is how to estimate a long-run, unconditional beta which best reflects underlying business risk over the assumed investment horizon. Ofwat's references to 15Y ILGs in the draft methodology suggest that at PR24 the relevant investment horizon is 15 years.

Whilst the unconditional beta does not vary with time and business cycles, it may change in case of a break in the econometric relationship between the water industry and the wider market. In case of such structural breaks, the question becomes whether the break is representative of a "new normal" in which case the affected should be legitimately included in the calculation of beta. If, however, the effect is transitory, it should be excluded.

In this context, Covid19 and the Russia-Ukraine war – which have had a very material impact on the global and UK economies – represent statistically significant structural breaks for water company betas according to KPMG analysis[16]. In consequence a key question for estimation of beta at PR24 is how beta estimation should take into account observed structural breaks.

The analysis undertaken by KPMG assesses the weight that should be given to the data affected by Covid19 and the war in the context of setting long-run unconditional betas for PR24 based on two questions:

1. How likely is it that pandemics with similar impact to Covid19 will occur over the (at least) 15Y investment horizon assumed by Ofwat?

2. Whether the impact of the Russia-Ukraine war likely to be temporary or protracted, relative to the investment horizon implied by the PR24 WACC?

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[14] Ibid. paras. 9.334 – 9.338

[15] Appendix-11-Allowed-return-on-capital-appendix.pdf (ofwat.gov.uk) p. 3

[16] See section 4 of KPMG (2022), Relative risk analysis and beta estimation for PR24 [available at: https://www.ofwat.gov.uk/wp-content/uploads/2022/08/NWG_Estimation_of_beta_and_treatment_de_and_relevering.pdf]

On question 1, the study cited by Ofwat on frequency on pandemics estimates the base probability of experiencing a comparable pandemic is 0.38 to 0.76 in 100Y[17], which suggests that the likelihood that another pandemic event occurs in the estimation window is low. The approach adopted at CMA21 also placed limited weight on Covid-affected data. The CMA recognised that this type of economic crisis is relatively rare and was likely to be over-weighted in the CMA's beta estimates, which covered the last 2-, 5- and 10-year periods[18]. KPMG's analysis of the CMA's approach suggests that c. 3.7% of data used to derive PR19 beta estimates could have been Covid-affected.

Notably, the Civil Aviation Authority in the Final Proposals for the H7 price control for Heathrow set a beta assuming that a pandemic-like event would occur once in every 20 or 50 years and last 17 or 30 months.[19]

On question 2, KPMG assessed that forecast inflation – the proxy to quantitatively evaluate the timing of reversion to 'normal' economic conditions following the war – is expected to revert to long-term target levels ahead of the start of the PR24 price control. In combination with the actions being undertaken to mitigate the economic impact of the war on Europe (for example via increasing self-supply of energy)[20], this evidence implies that the impact of the war could reverse in the next couple of year and is not likely to be relevant for setting the allowed returns for PR24.

KPMG also considers question of de- and re-levering betas in light of the Mason & Wright paper which argues that the existing approach is contrary the Modigliani and Miller (1958). KPMG finds that there is not a clear problem with the existing approach because there is no expectation that MM should hold *precisely* due to market frictions and distortions. As a result, whether WACC is increasing in gearing or not should not represent the sole criterion used to assess whether the current regulatory approach is correct.

KPMG also find that alternative approaches proposed by MW have significant flaws, for example because they result in an implausibly high debt betas or undermine the rationale for setting notional gearing in the first place. First Economics[21] also show that, if the regulator uses a too-low risk-free rate, this leads to a WACC that is increasing in leverage. If the risk-free rate is calculated correctly, then the WACC is no longer increasing in leverage. Overall, the preferred approach based on the analysis by KPMG is to retain the current approach to de- and re-levering.

KPMG estimates a range of 0.28-0.30 for the unlevered beta for PR24 based on the following evidence:

— The upper bound of the range is based on the equally weighted average of spot estimates of 2- and 5-year betas as at 28 February 2020 **(0.304).** The use

[17] Intensity and frequency of extreme novel epidemics | PNAS
[18] Ibid., para. 9.493
[19] Economic regulation of Heathrow Airport Limited - H7 Final Proposals Section 3: Financial issues and implementation (caa.co.uk), section 9
[20] REPowerEU (europa.eu) implied increases in the self-generated supply of renewable energy and the decrease in the reliance on Russian exports can reasonably be expected to mitigate the price pressures arising from the war.
[21] First Economics (2022), The Risk-free Rate [available at: https://www.ofwat.gov.uk/wp-content/uploads/2022/08/NWG_Risk_Free_Rate_FE.pdf]

of the 28 February cut off is informed by the inference that the CMA potentially placed no weight on Covid-affected estimates. The reliance on 2- and 5-year betas reflects the evidence of the structural break around PR14 which implies that as at February 2020 estimation windows longer than 5 years would not be reflective of the fundamental business risk going forwards.

— The lower bound of the range assigns some weight to the Covid-affected data such that the resulting beta estimate assumes that a c. 2-year pandemic of a similar scale as Covid occurs once in 15 years **(0.280).** This 15-year horizon is consistent with the tenor of 15Y Gilts referred to by Ofwat in the draft methodology

Table 1 combines the unlevered beta estimates with a debt beta of 0.075 and notional gearing of 60% using the preferred approach to de- and re-levering in order to derive the notional equity beta range for PR24.

Table 1 Notional equity beta range for PR24

	Lower bound	Upper bound
Unlevered beta	0.280	0.304
Asset beta	0.320	0.345
Debt beta	0.075	0.075
Notional gearing	60%	60%
Notional equity beta	0.687	0.750

The proposed equity beta range is consistent with the range of 0.69 – 0.74 determined by the CMA for PR19.[22]

Cross-checks

We disagree with the proposed use of MAR as a key cross check on the cost of equity due to the significant limitations of this evidence and the difficulties in correctly interpreting MAR data. KPMG[23] has undertaken a detailed evaluation of the relevance and usefulness of MAR as a cross check and found the following key shortcomings:

MAR is affected by assumptions (e.g. on future performance, terminal value), behavioural biases (e.g. path dependence, over-extrapolating) and market inefficiencies (e.g. supply-demand imbalances, exposure to economic and market cycles, low demand elasticity) which are estimated with uncertainty and difficult to measure. It not possible objectively to strip out the effects of all these other drivers and isolate the implied cost of equity with any degree of precision. This means that MAR cannot, by design, be a targeted cross-check.

The ability of MARs observed from private transactions to explain the fundamentals of a particular asset, including individual regulatory price control parameters

[22] CMA PR19 FD, Table 9-19

[23] KPMG (2022), Use of market-to-asset ratios (MARs) as a cross-check in the context of regulatory price controls [available at: https://www.ofwat.gov.uk/wp-content/uploads/2022/08/NWG_Cross_Checks_for_the_Cost_of_Equity_MARS.pdf]

determining its cash flows, is significantly compromised. Transaction MAR are point-in-time valuations that are prone to biases (selection bias, timing, private value, auction design, etc) rather than efficient pricing signals that could inform the level of return at which the market would commit capital to the sector in general. Transaction MAR cannot serve as a transparent and objective cross check.

The application of MARs by Ofwat to revise the allowed cost of equity could distort incentives. Specifically, if it was feared that any outperformance – whether in totex, ODIs, or financing – which pushed the company's MAR above 1 would subsequently result in a further reduction in the allowed cost of equity, this could further dampen incentives for improved performance as companies may fear that any rewards gained during a price control will be clawed back in part at the next price control through a reduced cost of equity.

KPMG has developed a sensitivity analysis for how a range of factors (such as company's performance, discount rate and terminal values) affect MAR based on a discounted cash flow (DCF) valuation model. This analysis demonstrates that (1) it is possible to have MAR above 1 even if the discount rate exceeds the allowed cost of equity, with other variables contributing to the upward valuation and (2) investors' assumptions, whether they are correct or not, will have a very significant impact on MARs.

KPMG has also undertaken a decomposition analysis to estimate the underlying MAR of the regulated business based on the traded premia and equity analysts' estimates for the various value components for SVT and UUW. The result – consistent with the findings at CMA21[24] – is a broad range of estimates for the value of the regulatory business. This broad range of the potential valuation of the underlying regulated business compared to the RCV, indicates that it is very difficult to draw any meaningful conclusions about specific investor assumptions on individual aspects of the regulatory settlement from implied MARs of the traded water companies.

Alternative cross checks – multi-factor models

In the response to the *PR24 and beyond: discussion paper on risk and return Affinity Water* set out that multi-factor models could serve as an alternative, robust cross-check on the cost of equity.

These alternative asset pricing models have been successfully developed in Financial Economics and Corporate Finance literature over the last few decades in response to the identified empirical shortcomings in the performance of CAPM.

MFMs represent extensions of CAPM i.e., they augment CAPM (which is based on the market factor only) with additional explanatory factors. They are based on the same core underlying principle that there is a direct relationship between risk and required returns. Multi factor models can be used to derive the required return for a given company/asset just as CAPM does using market data and estimation of several risk factors (in effect, several Betas).

MFMs are well-established and have been used as the preferred asset pricing model for over 30 years

[24] CMA (2021), PR19 FD, para. 9.1360

— Multifactor models permit a nuanced view of risk that is more granular than a single-factor approach allows

— MFM have a robust theoretical justification and are grounded in both corporate finance and accounting literature

— MFM have been proven to be statistically robust based on extensive empirical analysis, with better empirical performance than the CAPM

Given that MFM improve upon the explanatory power of CAPM, these models represent the most logical and primary cross check for returns implied by CAPM.

Alternative cross checks – Financeability

Financeability tests are a critical and unique cross check on the judgments applied in setting the key parameters of the price control including the cost of capital, Totex allowances and incentives. This is because financeability is the only cross check that

— Is explicitly linked to the finance duty; and

— Reflects (i) the financial position and capital structure; (ii) projected cashflows and credit metrics; and (iii) financial headroom available for management of risk for the notional company. These are all critical considerations in the financeability assessment and are all materially driven by the level of allowed cost of equity.

At CMA21, the CMA considered financeability to provide a relevant cross-check on the choice of the cost of equity and noted that the WACC was the primary factor in ensuring that an efficient firm can finance its functions[25].

Critically, to serve as a binding and meaningful check on the calibration of the PR24 regulatory package, the financeability tests should be applied such that the results are not contingent on the assumptions regarding the notional capital structure. In this context, it would be helpful and informative to undertake the financeability analysis on the basis PR19 notional structure to ensure that changes at PR24 do not mask deterioration in the underlying financeability position.

Alternative cross checks – Risk analysis

CMA21 implemented a direct link between risk analysis and return calibration. Firstly, the CMA made certain changes to the cost assessment and to the ODIs, to rebalance risk and return and support financeability[26]. Secondly, the CMA provided an upward adjustment to the cost of equity for the remaining asymmetry in the ODI package[27].

Consistent with CMA21, we maintain that risk analysis represents an important real world, corporate finance cross check on allowed returns in line with financeability requirements. A disconnect between risk analysis and returns calibration is liable to result in a price control where risk and return are out of balance, leaving companies exposed to excessive downside risks. Such an outcome could undermine financial resilience of the sector.

[25] CMA (2021), PR19 FD, para. 10.72
[26] CMA (2021), PR19 FD, para. 9.1338
[27] CMA (2021), PR19 FD, para. 10.104

Aiming up

Ofwat considers there should be a high evidential bar for moving away from the central CoE estimate, limited to evidence from its market cross-checks. In addition to the points above on the very limited reliability of the MAR cross-check and availability of more robust and relevant alternatives, we also note that there is strong rationale for aiming up when setting the point estimate for PR24 CoE.

The CMA21 methodology included 25bps to account for investment incentives due to parameter uncertainty, financeability, and asymmetric risk on ODIs (including possible changes in forward-looking risk exposure). It is appropriate to consider holistically this broad range of factors in coming to a view on the degree of aiming up required for PR24.

At this early stage of PR24, the calibration of the price control package and any implied asymmetry are unknown, and the forward-looking risk exposure has not yet been analysed comprehensively. However, parameter uncertainty continues to support aiming up on CoE which will likely be further supported by increasing risk exposure at PR24.

6 Q7.5 Do you agree with our proposed approach to setting the allowed return on debt?

Ofwat's proposed approach implies some, but limited consistency with the principles and evidence from CMA21. We disagree with the departures from CMA21 on the treatment of swaps, the application of the outperformance wedge and the exclusion of some debt from the calculation of the sector average.

The application of the outperformance wedge implies perverse incentive to issue shorter term debt which will lead to greater refinancing and interest rate risk. These risks will ultimately be borne by the customer when the new, shorter, debt matures and needs to be refinanced during future price reviews.

Whilst Ofwat has provided some additional information on the broad methodology to derive the sector average, important elements of the approach to calculate and cross-check the embedded debt allowance remain unclear, creating uncertainty and risk of ex post discretion. Further work is required to develop a clear and transparent ex ante policy based on robust principles.

Embedded debt:

At the highest level an approach based on sector average costs is consistent with the CMA21 methodology, however, there are important and material departures in the draft methodology with which we disagree.

The exclusion of swaps from the calculation of sector average cost of debt

Swaps are a standard tool to mitigate rather than to enhance financial risk, in line with corporate financial management policy. Delineation between pure debt and swaps – as proposed by Ofwat – introduces a false distinction for the allocation of risk and distorts the all-in borrowing costs.

A vast majority of swaps in the sector are designed to achieve economic hedges and should be included in the calculation of the actual cost of debt (CoD). Swaps that could distort costs across regulatory periods could be excluded as outliers.

Swaps were included in the CMA21 calculations of the allowance for embedded debt.[28]

During GD&T2 appeals, the CMA noted that "*we agreed with the view expressed by WWU that derivatives are a generally accepted and widely used tool within corporate treasury departments. This is especially true if derivatives are used to replicate instruments such as index-linked debt, which are useful debt instruments in a regulatory framework.*[29]" In practice, the CMA's conclusion not to amend the allowance to include derivatives in GD2, partially relied on the fact that at the sector level, the allowance provided by Ofgem incorporated sufficient headroom to cover the costs of derivatives which were small (5bps[30]). It is unlikely that the same would apply to water, where at PR19 Ofwat estimated that the impact of swaps on WASC CoD was 20-30bps[31].

The exclusion of junior debt from the calculation of sector average cost of debt

The exclusion of junior debt due to its presence in companies with higher gearing is one-sided and distortive. This is because the primary purpose for issuing subordinated debt is to achieve a lower net cost of finance overall. This is achieved through the uplift in credit quality of the senior tranches, which reduces the interest rates on this debt and offsets the higher coupons on junior instruments.

This outcome would not have been achievable without the contribution from subordinated tranches so their exclusion is one-sided as the proposed approach prices in the benefits from junior debt whilst dismissing its costs.

We also note that the CMA did not exclude any instruments from its calculation of sector average debt costs for PR19, with the exception of credit facilities (which is recognised as standard practice).

Lack of clarity around the approach to calculation and cross-checks

There remains a lack of clarity regarding some elements of the approach to calculate and cross-check the allowance for embedded debt. The lack of ex ante agreed principles and methodology reduces transparency and increases regulatory risk.

It is unclear why the approach and principles cannot be set out on an ex-ante basis and why departures from the CMA21 methodology – which was subject to significant scrutiny, consideration, and challenge – are justified.

Ofwat will decide on the relevant measure to assess sector average in its early view of cost of capital. We consider that given the number of companies and instruments

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[28] CMA (2021), PR19 FD, paras 9.602 - 9.637 set out the CMA's approach to estimating actual debt costs. It is clear that the CMA does not make any adjustments for swaps.
[29] Final determination Volume 3: Individual Grounds (publishing.service.gov.uk), para 14.219
[30] GD&T2 FD, Finance Annex (Revised), difference in March '20 OBR RPI Forecast cost of debt between Tables 5 and 6.
[31] Ofwat – Final Response (publishing.service.gov.uk)

in the sector, the use of median as the averaging measure – consistent with the approach followed in CMA21[32] – ensures that the estimate is not skewed by outliers.

Ofwat proposes to inform the allowance by large companies, however:

- It is not clear which companies currently satisfy this criterion and whether this would change over AMP7,
- it is not clear whether this approach will be consistent with observed financing dynamics in the sector, e.g. will only WASCs meet the criterion or will large WoCs such as Affinity Water as well,
- the approach could result in departures from the CMA's approach of setting the allowance based on WASCs and large WOCs[33], but this does not seem to have been considered by Ofwat.

Ofwat has stated it will adopt refinancing assumptions for debt forecast to mature before 2025 but has not provided detail on the proposed approach and whether, if at all, this would consider companies' own refinancing assumptions.

The consultation includes commentary on cross-checks for the cost of embedded debt, however, the draft methodology has not set out a clear proposal for companies to comment on. Ofwat presents a thought experiment to illustrate that assuming issuance at a high fixed tenor such as 20 years may overstate the actual cost of borrowing but this has not been explicitly linked to the specification of a cross-check.

Lack of transparency for the calculation

We do not agree that sharing Ofwat's conversion of each company's instrument-level data into CoD projections with only that company is sufficiently transparent and supports proper application of the methodology. To achieve requisite level of transparency, companies should be provided with all the information required to independently replicate Ofwat's calculations. Given that the starting point of the analysis is publicly available information from annual performance reports, it is unclear why Ofwat's conversion process itself should generate commercially sensitive data.

New debt

We disagree with the proposed inclusion of the outperformance wedge adjustment due to the lack of robust evidentiary support and the potential to create a perverse incentive to issue shorter term debt which will lead to greater refinancing and interest rate risk. These risks will ultimately be borne by the customer when the new, shorter, debt matures and needs to be refinanced during future price reviews.

The application of the outperformance wedge adjustment was subject to extensive analysis and debate at CMA21. The CMA's views were that "*there is insufficient evidence of like-for-like outperformance of water company debt versus the broader market*"[34] and that tenor was not a material driver of outperformance and did not justify any adjustment by itself[35].The CMA removed the wedge on new debt on the

[32] CMA (2021), PR19 FD, para. 9.791
[33] Ibid.
[34] CMA (2021), PR19 FD, para. 9.823
[35] Ibid, para 9.825

basis that previous drivers (high rating, EIB debt, floating debt) would be unlikely to drive systematic outperformance going forwards[36]. The CMA's conclusions and approach remain relevant for PR24.

We note that Ofwat will undertake specific analysis to establish the extent to which water companies are able to issue at a discount to the benchmark index. For all debt issued before AMP7, the CMA process has already established conclusively that there is no evidence to support the wedge. Any analysis of issuances during PR19 should be consistent with the approach endorsed by the CMA (we note the specific concerns raised by the CMA on Ofwat's analysis of PR19 issuances[37]), for example, in terms of like-for-like comparison.

Ofwat does not consider that its approach risks incentivising excessively short-term issuance, effectively putting onus on companies to appropriately balance the benefit of lower rates on shorter term debt with the increased interest rate exposure. However, the application of the wedge adjustment, in particular on an ex-post basis, risks creating a 'race to the bottom' given that companies will have limited visibility of how Ofwat's measurement of the wedge could evolve during the price control or what other companies are doing. To avoid being financial disadvantaged companies would likely have to take on more interest rate and refinancing risk by issuing at shorter tenor than assumed for the notional company. Alternatively, companies might be incentivised to achieve shorter tenor synthetically – which would not be captured by Ofwat analysis. This could result in risk and cost not being reflected in regulatory calibration as Ofwat is proposing to exclude swaps from its analysis.

We agree with the CMA that the adjustment risks "*encouraging companies to shorten the tenor of their debt, which may not be in the best interests of customers over the long-term.*"[38] This is because short-term issuance creates exposure to rising interest rates; a risk that would ultimately be passed on to customers in the form of higher bills where shorter-tenor strategies are reflected in regulatory policy risk. Furthermore, effective shortening of the tenor of new debt would reduce the sector's financial flexibility.

Company specific adjustment

We welcome recognition that company specific adjustments on the cost of debt may be appropriate – consistent with the CMA/CC findings in the last three rounds of water appeals.

The overall approach to company-specific adjustments should create the right incentives by exposing companies to outcomes that are achievable based on factors within their control.

Company size and the resulting frequency of issuance are fully outside company control, resulting in additional costs and risks that need to be priced to allow for the recovery of efficiently incurred debt costs.

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[36] Ibid, para. 9.824
[37] Ibid. para 9.
[38] Cost of debt working paper (publishing.service.gov.uk)

We do not agree with Ofwat that companies have full control over timing and tenor of their issuances.

Timing of issuance is informed and constrained by the need to fund capex requirements and companies have limited ability to manoeuvre around this without incurring carry costs (increasing in scale with the extent to which the spend in pre-funded) and without compromising delivery of capex programmes (the risk of this increases the more the spend is deferred).

Tenor of issuance is not fully within management control either and is constrained by the need to issue long-term debt in line with the asset-liability principle and to avoid concentration of maturities, investor appetite on tenor at any given point in time; and implied future market conditions at the time of issuance.

Small issuers have more limited control over the factors affecting cost of debt and are exposed to greater risk of variance with the allowance. Small issuers have a low financing requirement in absolute terms compared to the benchmark size and typically access debt capital markets on infrequent basis to avoid premia associated with below-benchmark issuance size. This implies (1) greater (relative to more frequent issuers) risk of mismatch with the new debt allowance which assumes daily issuance and (2) greater risk that the issue dates could coincide with high points in the evolution of interest rates and/ or credit spreads which will affect the cost of debt relative to the sector on a long-term basis.

Affinity Water is an infrequent issuer of debt relative to the large companies in the sector and is smaller in size than the networks that were awarded the infrequent issuer uplift by Ofgem, most recently in the draft determination for the electricity distribution (DNO) sector[39]. Two of the networks highlighted as infrequent issuers are larger in size relative to Affinity Water[40] and unlike Affinity Water benefit from being parts of larger DNO groups which manage financing strategy, treasury policy and liquidity at the group level and can pool equity, interest rate and liquidity risk across a larger financing base. To refinance maturing debt and finance RCV growth, during PR24 Affinity Water expects to require c. £200-400m of new debt, which equates to annual issuance of less than £150m[41] and would meet Ofgem's criterion for the infrequent issuer uplift.

This suggests that an uplift on the cost of debt would be appropriate in principle to account for the additional risks and costs Affinity Water faces.

Specific decisions Affinity Water has taken in relation to timing of issuance have resulted in a cost of debt that is funded through current allowances. On this basis we do not consider that an uplift on embedded debt is required at this time (assuming our embedded debt costs are recoverable relative to the unadjusted allowance across PR24). Absent our company-specific financing decisions, the features, and characteristics of Affinity Water would likely have required additional compensation on the cost of debt relative to the sector-wide allowance.

The performance on the cost of new debt does not benefit from the mitigation provided by the timing of issuance of our existing portfolio, leaving Affinity Water

[39] RIIO-ED2 Draft Determinations – Finance Annex para 2.33
[40] Based on latest regulatory reporting: 2022 APR for Affinity Water, NPGY RFPR, SWALES RFPR, LPN RFPR
[41] Ibid, para 2.31

exposed to a greater risk of mismatch with the allowance and greater risk of issuing debt at points which coincide with higher rates.

Even after allowing for our prudent approach to debt maturity profile and ensuring we are compliant with the constraints contained in our Whole Business Securitisation we still face significant risk. As a result, an uplift on the cost of new debt to reflect our size and infrequency of issuance would be appropriate.

Issuance and illiquidity costs

Basis risk mitigation

Ofwat has proposed a 10bps allowance for issuance and liquidity costs for PR24 in line with PR19 estimates and has not included any additional allowance for CPIH basis risk mitigation. This approach does not appropriately price the RPI-CPIH hedging risk introduced by Ofwat's full transition to CPIH.

We do not agree with Ofwat's re-calculation of the 5bps additional allowance for CPIH basis risk mitigation provided by Ofgem and the conclusion that the adjustment corresponding to the notional water company would be c. 2bps on the overall cost of debt.

The proportion of index-linked debt (ILD) in the water sector materially exceeds that in energy, therefore intuitively one would expect the adjustment to be greater for water. This is not the case as Ofwat is only applying the adjustment to new debt and is using an assumed proportion of ILD which is too low given the proposed changes to the notional company at PR24. We would expect the size of the adjustment to be closer to 10bps[42].

An uplift is warranted on both embedded and new debt. ILD in the sector is almost entirely RPI-linked (90% of the total index-linked debt) which creates a significant asset liability mismatch with the CPIH-linked revenues / RCV. The decision to move from an RPI- to a CPIH-based framework is outside of company control and could not have been predicted at the time debt structures and hedging strategies were put into place. As a result, companies will be exposed to RPI/ CPIH basis risk due to the specification of the regulatory policy which is outside their control. The transition should be implemented in a manner that doesn't penalise and disadvantage certain networks due to exogenous factors outside their control.

We disagree with Ofwat's argument that net benefits in risk reduction from a move to CPIH indexation obviates the need for compensation of additional basis risk. Oxera acknowledges that the asset-liability mismatch between largely RPI-linked liabilities and CPIH-linked RCV offsets the reduction in volatility from moving away from RPI indexation. Where the proportion of RPI-linked debt is very material and all of the RCV indexation is switched to CPI, after accounting for the mismatch, there is unlikely to be a net reduction in risk[43]. This clearly applies at PR24, given that for most of the sector RPI-linked debt comprises a significant portion of the portfolio and Ofwat is implementing a full transition to CPIH.

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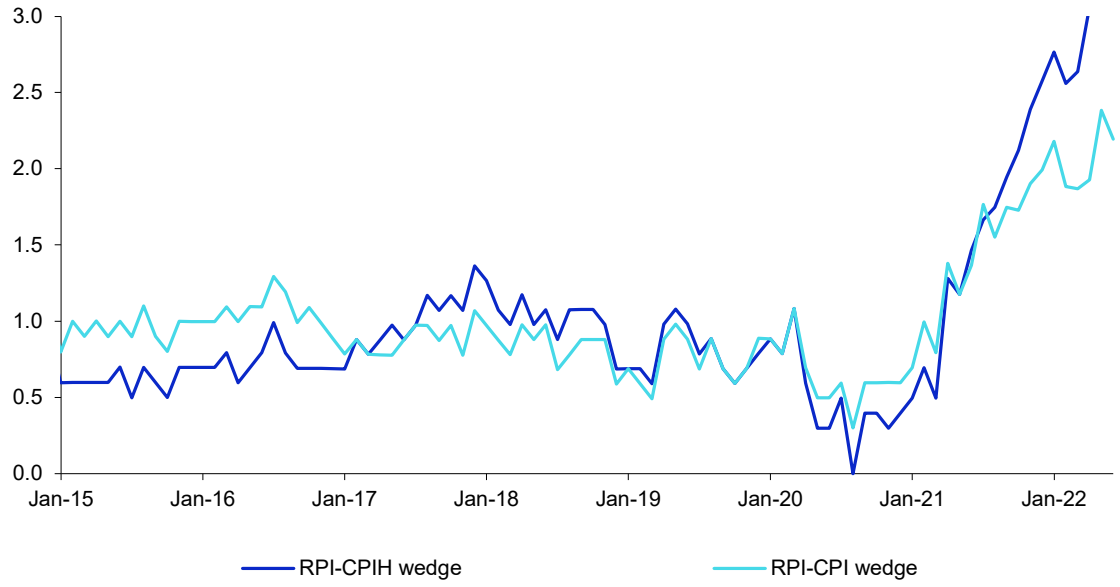
[42] Assuming 40% ILD in the notional structure and 20% share of new debt (i.e. no reduction in notional gearing) and the same cost assumptions as used by Ofgem (15bps on embedded and 30bps on new)

[43] Indexation of future price controls in the water sector (oxera.com) page 68

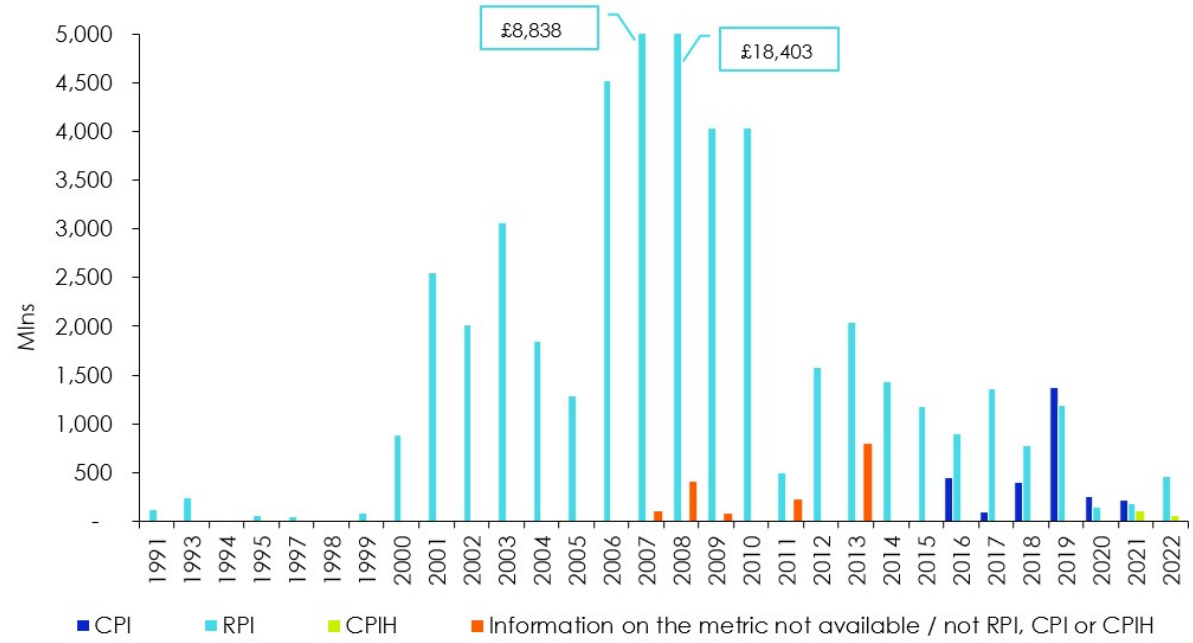
There is a material and varying wedge between RPI and CPI as well as RPI and CPIH which creates basis risk exposure for companies. This issue is exacerbated ahead of PR24 due to the current volatility in the macroeconomic environment which is reflected in the dynamics of the wedge. Furthermore, to date companies have largely issued CPI-linked debt – given the lack of depth in the CPIH-linked market – meaning that even where companies hedge their RPI exposure, they are still exposed to basis risk between CPI and CPIH.

Figure 1 Outturn RPI-CPI and RPI-CPIH wedge



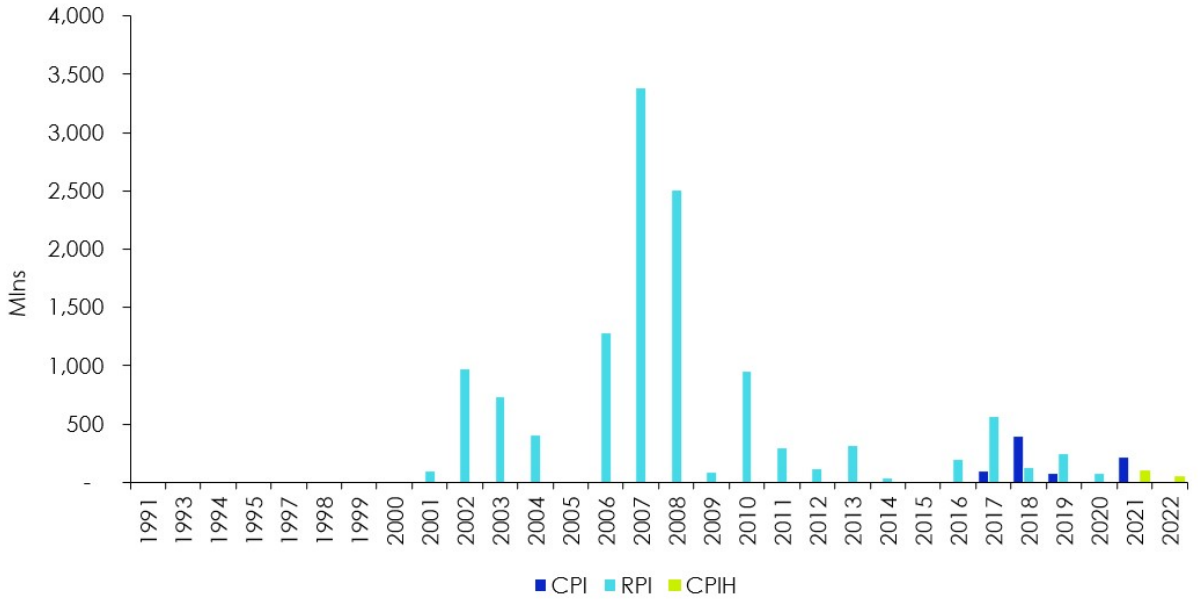
Whilst the transition to CPIH in water is phased, we note that all ILD issued by the notional company was assumed to be RPI-linked at PR19, therefore PR24 is the first time where material proportions of CPI(H)-linked debt are introduced in for the notional company. Ofwat notes that a number of water companies have issued CPI-linked debt, however, the market for both CPI and CPIH direct issuance remains nascent and immature. This is evident from the charts below which illustrate the split of ILD issued since 1990s across the different inflation measures both by water companies and by the wider market.

Figure 2 GBP-denominated ILD issuances



Source: Bloomberg, Refinitiv Eikon. Presented on the basis of a March year end.

Figure 3 Water company ILD issuances



Source: Bloomberg, Refinitiv Eikon. Presented on the basis of a March year end.

This suggests that the natural transition of debt portfolios to CPI(H) using direct issuance would occur slowly and that swaps will be required to mitigate the mismatch between RCV and debt indexation in the meantime on both embedded and new debt.

Cost of carry

We also note that to the extent that floating rate debt is included in the calculation of the sector average debt costs ('all-in' cost approach referred to by Ofwat), it is also appropriate to include a matching adjustment for cost of carry.

This is because where floating rate debt is explicitly included in the assessment of actual costs, it is no longer appropriate to assume that the impact of cost of carry and floating rate debt offset one another. Inclusion of cost of carry with floating rate debt is consistent with the approach adopted at CMA21[44] and Ofgem for RIIO2, where Ofgem provided an allowance of 10bps based on network financing and cash on balance sheet.[45]

Share of new debt

We agree that the proportion of new debt for PR24 should reflect the anticipated PR24 investment and RCV growth. For consistency with the approach to the allowance for embedded debt, the primary evidence to set the share of new debt should be the projected sector average debt portfolio. Furthermore, there should also be consistency between the more granular elements of the calculation, for example, the statistic used to arrive at the single figure for the sector.

Whilst we disagree with the proposed reduction in notional gearing as set out in the response to Q7.7, we note that this change will have a direct impact on the share of new debt and would need to be explicitly factored into the calculation.

Inflation

We welcome Ofwat's intended approach to retain the Bank of England's 2.0% CPI target as the long-term forecast used in cost of debt calculations.

The WACC for regulated utilities is estimated over a long-term investment horizon, consistent with the very long useful lives of assets in these sectors. The underlying parameters – including inflation – should, as far as possible, be estimated in a way that is consistent with the chosen horizon, as otherwise the WACC estimate is not a true expected return over the chosen time horizon.

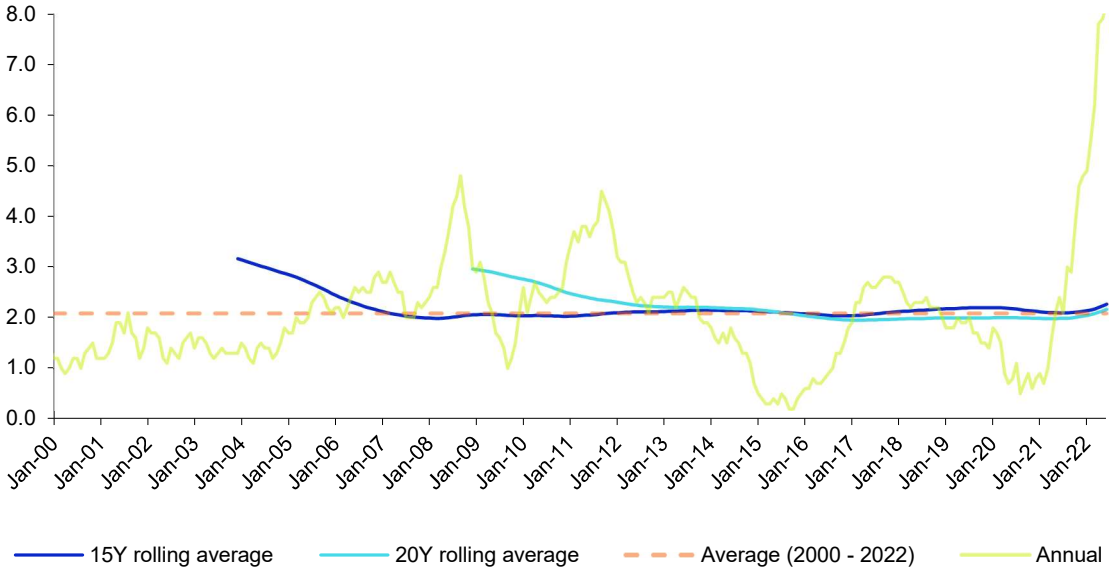
The existing approach is consistent with the core principles of UK economic regulation (to protect investor returns in real terms). Inflation risk protection is an important element of the regulatory model that investors rely on and one that has supported the lowering of the WACC relative to sectors that bear inflation exposure. Maintaining stability and predictability in this regard is important for investor confidence, especially for investors with inflation-linked liabilities, and the attractiveness of the sector.

Under the existing approach the exposure to inflation is symmetric which may not be the case where, for example, high short-term inflation is directly reflected into the real return.

The chart below shows that although actual CPIH fluctuates, long-term averages on both simple and rolling basis are in line with the Bank of England's target and the assumption used by Ofwat. Over the long-term investment horizon for the water sector, investors will therefore be exposed to outturn inflation that is consistent with 2%.

[44] CMA (2021), PR19 FD, paras. 9.607 – 9.608
[45] GD&T2 FD, Finance Annex (Revised), para 2.23

Figure 4 Outturn annual CPIH at each month end



Source: CPIH ANNUAL RATE 00: ALL ITEMS 2015=100 - Office for National Statistics (ons.gov.uk)

7 Q7.6 What are your views on the options we have set out for estimating the RPI-CPIH wedge for converting RPI-linked yields to a CPIH basis?

Ofwat's preferred method for estimating the wedge – i.e. 'official forecasts' approach – is exposed to forecasting error which is exacerbated by the uncertainty regarding the speed and extent to which the yields on ILGs incorporate investors' expectations regarding the RPI reform.

Inflation swaps are acknowledged to be a valuable market-based measure of inflation expectations[46] and could inform a robust estimate of the wedge that reflects the latest information from the market. Ofwat considers that swaps may be exposed to distortions from inflation risk premia and/or low liquidity, however, according to Oxera[47] estimating the RPI-CPI wedge from the difference between zero-coupon RPI and CPI swaps can reduce these distortions.

Given that zero coupon swaps are only available for RPI and CPI, the estimation of the wedge from swap data would require an adjustment for a CPI-CPIH wedge. The analysis undertaken by Oxera indicates that the RPI-CPIH wedge derived in this manner is broadly consistent with the wedge derived from the official forecasts approach.

[46] Bank of England Quarterly Bulletin Spring 2002
[47] Oxera (2022), RFR methodology for PR24 [available at: https://www.ofwat.gov.uk/wp-content/uploads/2022/08/NWG_Risk_Free_Rate_Oxera.pdf]

8 Q7.7 Do you agree with our proposed approach to the notional structure and setting allowances for corporation tax?

Ofwat's proposal to reduce notional gearing lacks support from market evidence, a holistic impact assessment and robust justification that the current gearing is sub-optimal and hence should be reduced. As a result, it creates a real risk of perverse incentives (e.g. to move to inefficient gearing levels) and adverse consequences (undermining investor confidence, over-reliance on a single source of financing, and equity issuance costs which ultimately need to be borne by customer)

An increase in ILD to match the sector average would exacerbate RPI-CPIH basis risk unless all ILD is assumed to be CPIH for the notional company and the costs of swapping RPI to CPIH are appropriately allowed.

Ofwat's proposal to increase the proportion of ILD for PR24 appears to be inconsistent with the rationale for retaining the 33% ILD assumption at PR19 even though the rationale applies equally to PR24.

Notional gearing

Ofwat's proposal to reduce notional gearing lacks support from market evidence, a holistic impact assessment and robust justification that the current gearing is sub-optimal and hence should be reduced. It also contradicts CMA21, whereby the CMA did not consider that there was evidence to justify an alternative level of gearing[48] or that another level of notional gearing would better serve customers[49] despite arguments made by Ofwat's during the re-determination to amend the notional structure.

A review of the proposal by Frontier Economics (FE)[50] has found that it implies a real risk of perverse incentives (e.g. to move to inefficient gearing levels) and adverse consequences (undermining investor confidence, over-reliance on a single source of financing, and equity issuance costs which ultimately need to be borne by customer).

FE consider a variety of external, behavioural, and social factors in order to arrive at a robust way to estimate the reasonable range for notional gearing – they find this purpose is best served by focusing on the market data and empirical evidence for regulatory gearing.

FE conclude that when measured using the right gearing ratio for the sector (i.e. RCV gearing) market evidence across credit rating agency criteria, actual gearing rates, and regulatory precedent supports a range of 60%-75%. The current notional gearing level of 60% is already at the bottom of this range. FE do not find any evidence to indicate that the social optimal level of gearing would be below the level determined by the market evidence.

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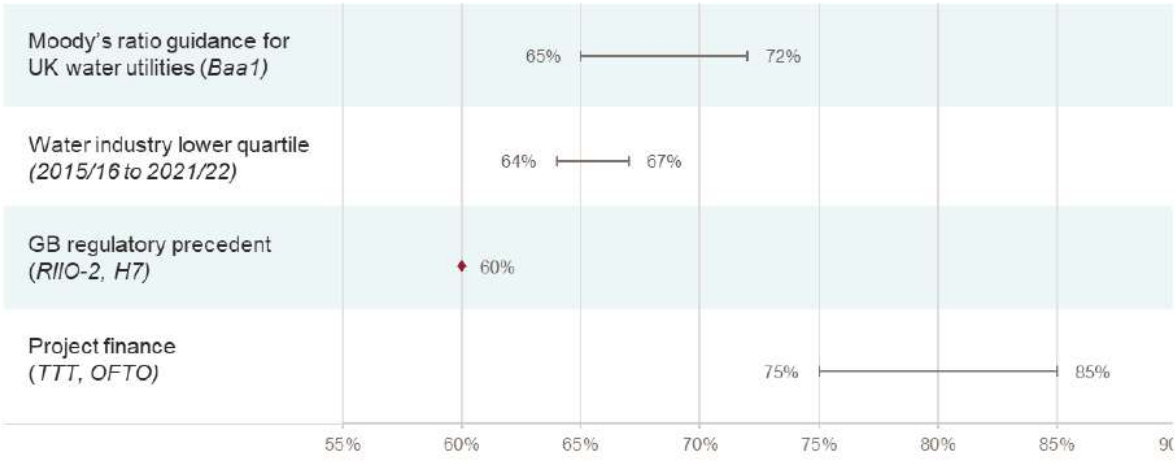
[48] CMA (2021), PR19 FD, para. 9.530
[49] Ibid, para. 9.44
[50] Frontier Economics (2022), Notional Capital Structure [available at: https://www.ofwat.gov.uk/wp-content/uploads/2022/08/NWG_Setting_Notional_Gearing.pdf]

In relation to Ofwat's argument that increasing risk exposure warrants an increase in headroom and hence a reduction in notional gearing, FE notes that Ofwat has not justified why reducing the notional gearing level is the most efficient way to provide additional headroom. Creating more notional gearing headroom cannot address cashflow or interest cover (ICR) risks arising from factors such as extreme weather events, environmental pressures, or an increase in bad debt due to changes in the wider economic climate. Instead, these risks are better managed through other regulatory mechanisms consistent with the approach adopted by Ofgem and CAA.

Figure 5 Summary of market evidence on gearing



Source: Frontier Economics

Lastly, the allowance typically provided by regulators for equity issuance focuses on direct costs, so is likely to be an underestimate of the full cost of issuing equity, since carry costs have not been considered. This is an additional cost for consumers that would need to be set against the benefits, if any, of the gearing reduction

Proportion of index-linked debt

The approach for setting parameters for the notional company should be internally consistent. Ofwat argues that its approach to set the allowance for cost of embedded debt and the proportion of ILD are consistent due to the use of (adjusted) balance sheet information. However, this is not sufficient to ensure consistency as there are more granular parameters that need to be aligned, for example, the range of companies and the statistic used to set the proportion of ILD, gearing and cost of embedded debt. Setting the proportion of ILD based on the simple average of the sector whilst abstracting from sector average gearing would not be consistent.

Ofwat's assumption is that the notional company will have a mix of RPI and CPIH-linked debt. This approach results in a mismatch between CPIH linked assets and RPI linked liabilities for the notional company, with no pricing of this risk in the cost of debt allowance. Figure 1 shows that the volatility in the RPI-CPIH wedge is non-trivial, leaving companies exposed to material unpriced basis risk which it cannot be assumed the notional company would not take on.

An increase in ILD to match the sector average would exacerbate this basis risk unless all ILD is assumed to be CPIH for the notional company and the costs of swapping RPI to CPIH are appropriately allowed.

An increase in the proportion of ILD, where the debt portfolio includes a mix of RPI and CPIH debt, effectively means that the notional company would issue additional RPI debt despite the reduction in the proportion of RCV linked to RPI. This does not appear to be a reasonable assumption.

Ofwat's proposal to increase the proportion of ILD for PR24 appears to be inconsistent with the rationale for retaining the 33% ILD assumption at PR19 even though the sector average proportion was above this figure. In the final methodology for PR19 Ofwat noted "*as a prudent assumption for the testing of financeability, both due to the variation in its percentage share by companies in the sector, and because the regulatory framework is transitioning away from the use of RPI*".[51] The rationale underpinning this decision is just as applicable to PR24 i.e. increasing the proportion of ILD will impact the financeability analysis, there is a wide range of ILD proportions observed in the sector and the rate of transition away from RPI is increasing relative to PR19.

Corporation tax

We agree with Ofwat's approach to calculating tax allowances and the proposed simplification of the tax funding calculation via the use of geometric uplift methodology.

We note that further clarification is required regarding how the PR19 tax reconciliation for changes in the rate and introduction of super-deductions will be implemented – Ofwat has not yet published an updated PR19 model to perform these.

Furthermore, Ofwat's financial model includes three capital allowance pools (2%, 6% and 18%). It is not clear how the closing pool balances for the super deductions pool will be treated in the opening balances for PR24.

[51] Ofwat (2018), Delivering Water 2020: Our final methodology for the 2019 price review, Appendix 12: Aligning risk and return, p. 84